

Abstract of the disclosure

A magnetic field sensing structure is described that uses magnetoresistance as a
5 signal. The structure includes an inhomogeneous network of interconnected
semiconducting elements which may be of various shapes. By tuning or
selecting physical properties of the elements, the overall magnetoresistive
response may be adjusted to be large and substantially linear over a range of
magnetic fields. Such sensing structures may be used, for example, in hard-
10 disk read-heads. Other embodiments may find application in low or high field
sensing, with some being of particular interest where thermal stability is of
importance.

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